

Problems 19–28, determine the amplitude and period of each function without graphing.

19. $y = 2 \sin x$

20. $y = 3 \cos x$

21. $y = -4 \cos(2x)$

22. $y = -\sin\left(\frac{1}{2}x\right)$

23. $y = 6 \sin(\pi x)$

24. $y = -3 \cos(3x)$

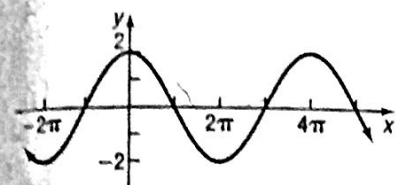
25. $y = -\frac{1}{2} \cos\left(\frac{3}{2}x\right)$

26. $y = \frac{4}{3} \sin\left(\frac{2}{3}x\right)$

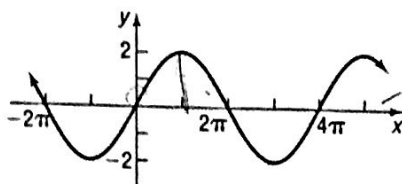
27. $y = \frac{5}{3} \sin\left(-\frac{2\pi}{3}x\right)$

28. $y = \frac{9}{5} \cos\left(-\frac{3\pi}{2}x\right)$

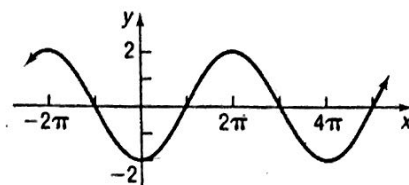
Problems 29–38, match the given function to one of the graphs (A)–(J).



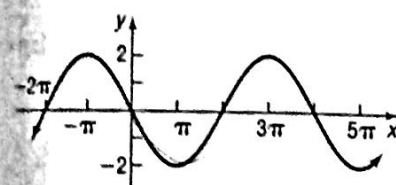
(A)



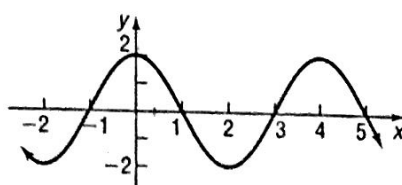
(B)



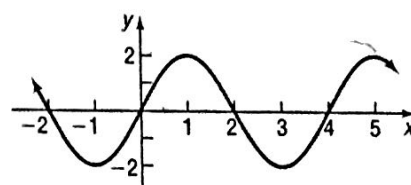
(C)



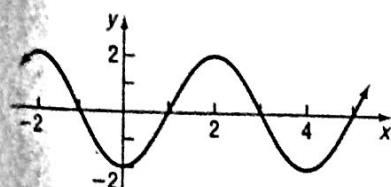
(D)



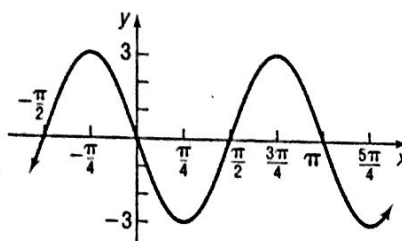
(E)



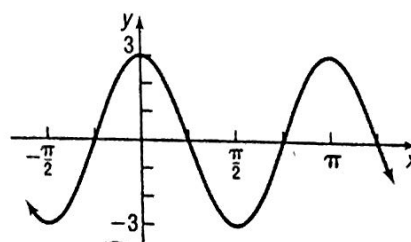
(F)



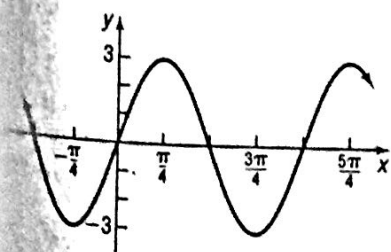
(G)



(H)



(I)



(J)

29. $y = 2 \sin\left(\frac{\pi}{2}x\right)$

30. $y = 2 \cos\left(\frac{\pi}{2}x\right)$

31. $y = 2 \cos\left(\frac{1}{2}x\right)$

32. $y = 3 \cos(2x)$

33. $y = -3 \sin(2x)$

34. $y = 2 \sin\left(\frac{1}{2}x\right)$

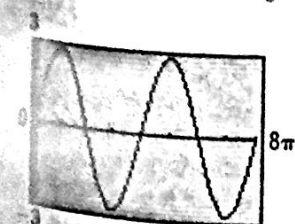
35. $y = -2 \cos\left(\frac{1}{2}x\right)$

36. $y = -2 \cos\left(\frac{\pi}{2}x\right)$

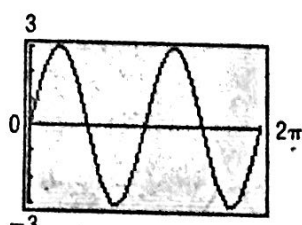
37. $y = 3 \sin(2x)$

38. $y = -2 \sin\left(\frac{1}{2}x\right)$

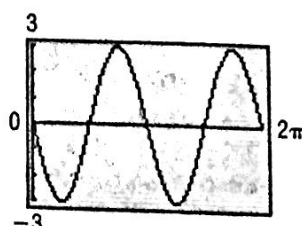
Problems 39–42, match the given function to one of the graphs (A)–(D).



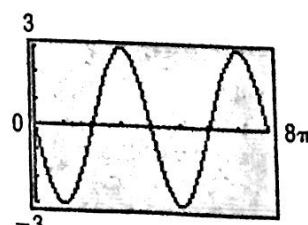
(A)



(B)



(C)



(D)

39. $y = 3 \sin\left(\frac{1}{2}x\right)$

40. $y = -3 \sin(2x)$

41. $y = 3 \sin(2x)$

42. $y = -3 \sin\left(\frac{1}{2}x\right)$